

REMARKS

Claims 1-22 are pending in the application.

Applicants appreciate the Examiner's consideration of the Information Disclosure Statements ("IDS") filed for this application, and respectfully request that the Examiner consider the preliminary examination reports submitted with the IDS's.

Claims 1-2, 4, 11- 13, 15, and 22 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,058,151 to Kim; claims 3, 5, 7-8, 14, 16, and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of U.S. Patent No. 5,812,523 to Isaksson et al.; and claims 6, 9-10, 17, and 20-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of U.S. Patent Application Publication No. 2003/0063678 to Crawford. Applicants respectfully traverse the rejections.

The Examiner relied upon the description in Kim of an OFDM autocorrelation apparatus as alleged disclosure of the claimed invention. Applicants respectfully point out that the cited portions of Kim only include description of an OFDM synchronization technique where an

"autocorrelation unit receives data including a synchronizing symbol made up of at least three identical synchronizing signals, delays the received data by a predetermined delay amount, performs autocorrelation between the received data and the delayed data..." Col. 2, lines 23-27 of Kim. (Emphasis added)

And Kim only includes description of identical synchronizing symbols and determining a moving average of such autocorrelations. Col. 4, lines 9-33 of Kim. Therefore, Kim, as cited and relied upon by the Examiner, does not disclose the claimed features of calculating a correlation value between a guard interval and data of an incoming signal and averaging such correlation values across a plurality of symbols and a plurality of frames.

In other words, Kim, as cited and relied upon by the Examiner, fails to disclose,

“[a]n automatic frequency control device in an OFDM (Orthogonal Frequency Divisional Multiplexing) system, comprising:

- a correlation unit calculating a correlation value between a guard interval and data of an incoming signal;
- an averaging unit averaging correlation values across a plurality of symbols and a plurality of frames;
- a peak position detecting unit detecting a peak position of the averaged correlation value; and
- a control unit controlling an oscillator using a prescribed step, based on the detected peak position,” as recited in claim 1. (Emphasis added)

Applicants refer the Examiner to Fig. 4, and its corresponding description in the specification, for an exemplary embodiment of the claimed guard interval feature—e.g., the guard interval is a copy of a top section of data appended to an end section of transmitted data. Advantageously, the claimed invention provides for expanding the data and minimizing inter-symbol interference. Thus, the technique described in Kim, as cited and relied upon by the Examiner, cannot perform the claimed features of calculating a correlation value between a guard interval and data of an incoming signal and averaging such correlation values—where such a guard interval is unaccounted for in Kim, and, thus, cannot be isolated for the claimed features.

Accordingly, Applicants respectfully submit that claim 1, together with claims 2, 4, 11 dependent therefrom, is patentable over Kim for at least the foregoing reasons. Claim 12 incorporates features that correspond to those of claim 1 cited above, and is, therefore, together with claims 13, 15, and 22 dependent therefrom, patentable over Kim for at least the same reasons. The Examiner cited and applied additional references, Isaksson et al. and Crawford, specifically to address the additional features recited in dependent claims 3, 5-10, 14, and 16-21, respectively. Isaksson et al. describe a method of detecting a frequency error. And Crawford describe a system of adjusting the width of a closed loop tracking bandwidth.

As such, further combinations with these additional references would still have failed to cure the above-described deficiencies of Kim, even assuming, arguendo, that such further combinations would have been obvious to one skilled in the art at the time the claimed invention was made. Accordingly, Applicants respectfully submit that claims 3, 5-10, 14, and 16-21 are patentable over the cited references for at least the above-stated reasons with respect to claims 1 and 12, from which they depend, respectively.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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